

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: RALPH GITOMER Examiner #: 69630 Date: 10/3/03
Art Unit: 1651 Phone Number 308-0732 Serial Number: 09/626,566
Mail Box and Bldg/Room Location: 11B01 Results Format Preferred (circle): PAPER DISK E-MAIL
11D11

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

RECEIVED
OCT -3 2003
(STIC)

STAFF USE ONLY

| | Type of Search | Vendors and cost where applicable |
|---------------------------------------|----------------------------|-----------------------------------|
| Searcher: <u>Hanley</u> | NA Sequence (#) <u>STN</u> | |
| Searcher Phone #: _____ | AA Sequence (#) _____ | Dialog _____ |
| Searcher Location: <u>1651</u> | Structure (#) <u>1</u> | Questel/Orbit _____ |
| Date Searcher Picked Up: <u>10/16</u> | Bibliographic _____ | Dr. Link _____ |
| Date Completed: <u>10/14</u> | Litigation _____ | Lexis/Nexis _____ |
| Searcher Prep & Review Time: _____ | Fulltext _____ | Sequence Systems _____ |
| Clerical Prep Time: _____ | Patent Family _____ | WWW/Internet _____ |
| Online Time: _____ | Other _____ | Other (specify) _____ |



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 105284

TO: Ralph J Gitomer
Location: CM-1/11D11/11B01
Art Unit : 1651
Tuesday, October 14, 2003

Case Serial Number: 09/626566

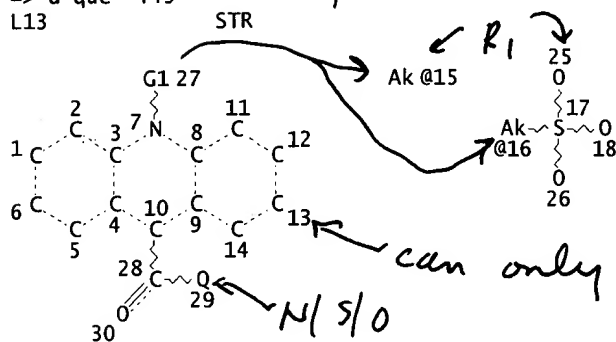
From : Susan Hanley
Location: Biotech-Chem Library
CM1 6B05
Phone: 305-4053

susan.hanley@uspto.gov

Search Notes

=> d que 149
L13

parent STR



on ring

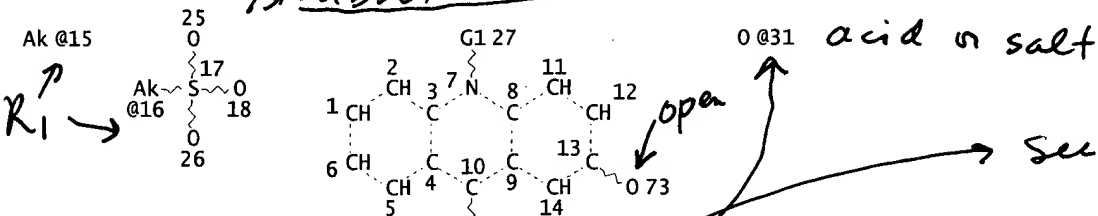
VAR G1=15/16
NODE ATTRIBUTES:
CONNECT IS E2 RC AT 1
CONNECT IS E2 RC AT 2
CONNECT IS E2 RC AT 5
CONNECT IS E2 RC AT 6
CONNECT IS E2 RC AT 11
CONNECT IS E2 RC AT 12
CONNECT IS E2 RC AT 14
CONNECT IS E1 RC AT 15
CONNECT IS E2 RC AT 16
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 24

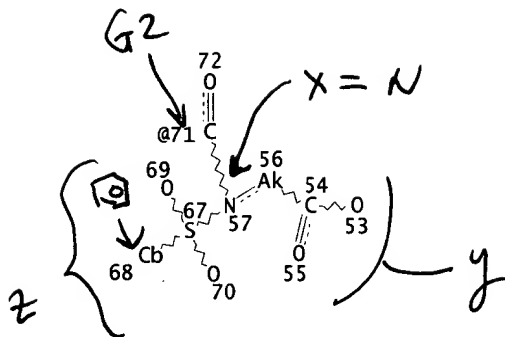
STEREO ATTRIBUTES: NONE
L15 639 SEA FILE=REGISTRY SSS FUL L13
L39 STR

639 cpds from parent search

subset STR



See next page
for when $x = N$



Page 2-A

VAR G1=15/16

VAR G2=71/28/65

VAR G3=31/33

VAR G4=0/S

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 15

CONNECT IS E2 RC AT 16

CONNECT IS E1 RC AT 31

CONNECT IS E2 RC AT 44

CONNECT IS E2 RC AT 46

CONNECT IS E1 RC AT 53

CONNECT IS. E2 RC AT 56

CONNECT IS E1 RC AT 61

DEFAULT MLEVEL IS ATOM

GGCAT IS MCY UNS AT

| | | | | | |
|-------|----|-----|-----|----|----|
| GGCAT | IS | NET | SNS | AT | 59 |
| GGCAT | IS | LIN | SAT | AT | 56 |

| | | | | | |
|-------|----|-----|-----|----|----|
| GGCAT | IS | EIN | SAT | AT | 50 |
| GGCAT | IS | MCY | UNS | AT | 61 |

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS E6 C AT 35

| | | | | | |
|--------|----|----|---|----|----|
| ECOUNT | IS | E6 | C | AT | 61 |
|--------|----|----|---|----|----|

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 56

STEREO ATTRIBUTES: NONE

L40 17 SEA FILE=REGISTRY SUB=L15 SSS FUL L39

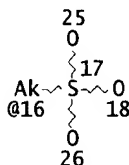
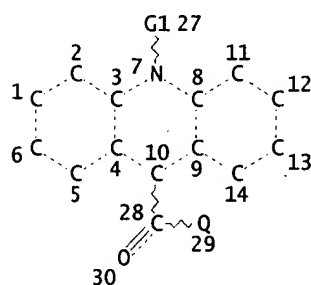
```
L49      2 SEA FILE=CAPLUS ABB=ON  PLU=ON  L40
```

$\Rightarrow d$ que 150

L13

STR

=REGISTRY SUB=L15 SSS FUL L39 17 cpas from subset STR
 =CAPLUS ABB=ON PLU=ON L40 2 cites
 Same ^{parent} STR search as before



VAR G1=15/16

NODE ATTRIBUTES:

CONNECT IS E2 RC AT 1

CONNECT IS E2 RC AT 2

CONNECT IS E2 RC AT 5

| | | | | | |
|---------|----|----|----|----|---|
| CONNECT | IS | E2 | RC | AT | 5 |
| CONNECT | IS | E2 | RC | AT | 6 |

CONNECT IS E2 RC AT 11

CONNECT IS E2 RC AT 12
 CONNECT IS E2 RC AT 14
 CONNECT IS E1 RC AT 15
 CONNECT IS E2 RC AT 16
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

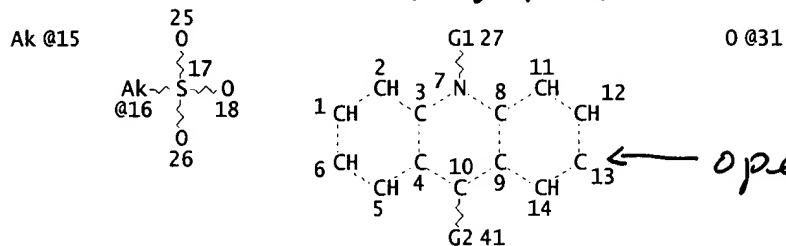
GRAPH ATTRIBUTES:
 RSPEC I
 NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE

L15 639 SEA FILE=REGISTRY SSS FUL L13

L37 STR 2nd subset str

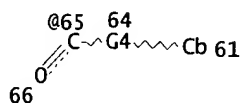
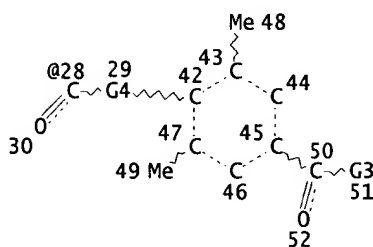
639 cpds from parent search



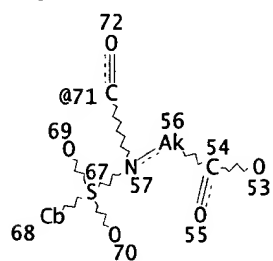
← open - can bond to anything

everything else is the same as the 1st subset str, L39

O ~ CH2 ~ Cb
 @33 34 35



Page 1-A



Page 2-A

VAR G1=15/16

VAR G2=71/28/65

VAR G3=31/33

VAR G4=0/S

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 15

CONNECT IS E2 RC AT 16

CONNECT IS E1 RC AT 31

CONNECT IS E2 RC AT 44

CONNECT IS E2 RC AT 46

CONNECT IS E1 RC AT 53

CONNECT IS E2 RC AT 56

CONNECT IS E1 RC AT 61

DEFAULT MLEVEL IS ATOM

GGCAT IS MCY UNS AT 35

GGCAT IS LIN SAT AT 56
 GGCAT IS MCY UNS AT 61
 DEFAULT ECLEVEL IS LIMITED
 ECOUNT IS E6 C AT 35
 ECOUNT IS E6 C AT 61

GRAPH ATTRIBUTES:
 RSPEC I
 NUMBER OF NODES IS 55

STEREO ATTRIBUTES: NONE

L38 76 SEA FILE=REGISTRY SUB=L15 SSS FUL L37
 L42 37 SEA FILE=REGISTRY ABB=ON PLU=ON L38 AND N>1
 L43 26 SEA FILE=REGISTRY ABB=ON PLU=ON L42 AND S/ELS
 L48 9 SEA FILE=REGISTRY ABB=ON PLU=ON L43 AND "CARBOXYPROPYL"
 L50 17 SEA FILE=CAPLUS ABB=ON PLU=ON L48

*76 cpds from 2nd subset STE
 looking for cpds
 that have*

=> s 149-50

L52 19 (L49 OR L50) *19 cites total*

=> d ibib abs hitstr 1-19

*even if they don't have
 OPO3 or a sugar
 moiety*

L52 ANSWER 1 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 2002:72743 CAPLUS
 DOCUMENT NUMBER: 136:129025
 TITLE: Immunoassay reagents and methods and test kits for the
 detection and quantification of vancomycin in
 biological fluids
 INVENTOR(S): Adamczyk, Maciej; Brate, Elaine M.; Perkowitz, Mary
 M.; Rege, Sushil D.
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 47 pp., Cont.-in-part of U.S.
 Ser. No. 26,869, abandoned.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|----------|
| US 2002009708 | A1 | 20020124 | US 1998-174121 | 19981016 |
| CA 2346717 | AA | 20000427 | CA 1999-2346717 | 19991015 |
| WO 2000023806 | A1 | 20000427 | WO 1999-US24270 | 19991015 |
| W: CA, JP | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| EP 1121599 | A1 | 20010808 | EP 1999-956580 | 19991015 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| JP 2002528704 | T2 | 20020903 | JP 2000-577495 | 19991015 |
| PRIORITY APPLN. INFO.: | | | | |
| US 1995-416567 B1 19950404 | | | | |
| US 1998-26869 B2 19980220 | | | | |
| US 1998-174121 A 19981016 | | | | |
| WO 1999-US24270 W 19991015 | | | | |

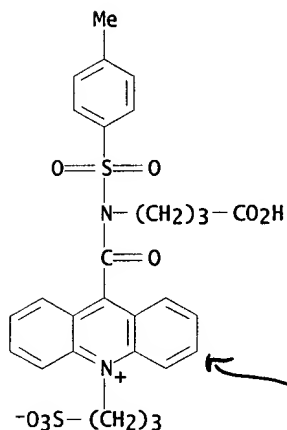
OTHER SOURCE(S): MARPAT 136:129025

AB Immunoassay reagents, methods and test kits for the specific
 quantification of vancomycin in a test sample are disclosed. The reagent
 comprises antibodies prep'd. with immunogens which is conjugated to a
 carrier protein and the carboxylic acid terminal of vancomycin by a
 linking moiety. Also described is the synthesis of labeled reagents where
 vancomycin is conjugated with preferably fluorescein or fluorescein
 derivs. via a 0 to 50 carbon linking moiety through the N-methylleucyl
 amine.
 IT 211106-69-3, 10-(3-Sulfopropyl)-N-tosyl-N-(3-
 carboxypropyl)acridinium-9-carboxamide

RL: RCT (Reactant); RACT (Reactant or reagent)
(immunoassay reagents and methods and test kits for detection and quantification of vancomycin in biol. fluids)

RN 211106-69-3 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



only similar to claimed STR

missing -OPO3 or O-sugar

L52 ANSWER 2 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:843438 CAPLUS

DOCUMENT NUMBER: 136:163576

TITLE: Characterization of acridinium-9-carboxamide-monoclonal antibody bioconjugates by electrospray ionization mass spectrometry

AUTHOR(S): Gebler, John C.; Adamczyk, Maciej; Shreder, Kevin; Wu, Jiang

CORPORATE SOURCE: Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA

SOURCE: Bioluminescence & Chemiluminescence, Proceedings of the International Symposium, 11th, Pacific Grove, CA, United States, Sept. 6-10, 2000 (2001), Meeting Date 2000, 345-348. Editor(s): Case, James F. World Scientific Publishing Co. Pte. Ltd.: Singapore, Singapore.

CODEN: 69CAFI

DOCUMENT TYPE: Conference

LANGUAGE: English

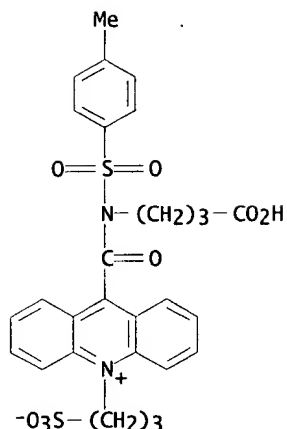
AB The extent, distribution, and regiospecificity of labeling monoclonal antibodies with acridinium-9-carboxamide salts were evaluated using an electrospray ionization mass spectrometry method. Antibody acridinium-9-carboxamide were prepd. by placing monoclonal anti-biotin antibody with different molar equivalents of acridinium-9-carboxamide active ester. The bioconjugates of anti-biotin monoclonal antibody with acridinium active esters were purified and then digested with papain to its Fab and Fc fragments. Two major total-ion-count peaks were obsd. originating from the Fc and Fab fragments. The use of ESI-MS method allowed the ready anal. of the av. labeling no., distribution, and the region-modification of various labels conjugated to monoclonal antibodies. This anal. can be applied to study, prep., and characterize antibody conjugates to ensure the prodn. of high quality immunoreagents.

IT 211106-69-3D, conjugates with monoclonal antibody

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(characterization of acridinium-9-carboxamide-monoclonal antibody bioconjugates by electrospray ionization mass spectrometry)

RN 211106-69-3 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 3 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:843437 CAPLUS

DOCUMENT NUMBER: 136:147288

TITLE: Quantitation of free chemiluminescent acridinium-9-carboxamide salts in bioconjugates

AUTHOR(S): Gebler, John C.; Adamczyk, Maciej; Shreder, Kevin; Wu, Jiang

CORPORATE SOURCE: Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA

SOURCE: Bioluminescence & Chemiluminescence, Proceedings of the International Symposium, 11th, Pacific Grove, CA, United States, Sept. 6-10, 2000 (2001), Meeting Date 2000, 341-344. Editor(s): Case, James F. World Scientific Publishing Co. Pte. Ltd.: Singapore, Singapore.

CODEN: 69CAFI

DOCUMENT TYPE: Conference

LANGUAGE: English

AB The content of noncovalently bound acridinium-9-carboxamide in bioconjugates was quant. detd. using liq. chromatog.-electrospray tandem mass spectrometry (LC/MS/MS) selected reaction monitoring technique. The results showed that the method used is simple, fast, and selective. The method required no sample pretreatment, and afforded the sensitivity, accuracy, and precision necessary for the quant. measurement. The procedure described is useful for advanced bioconjugate characterization.

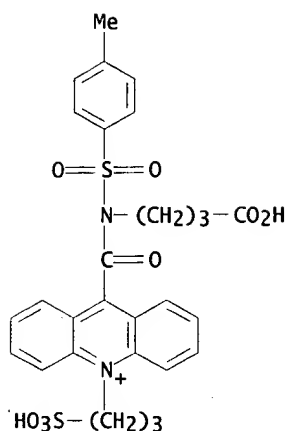
IT 395070-14-1 395070-15-2

RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)

(quantitation of free chemiluminescent acridinium-9-carboxamide salts in bioconjugates)

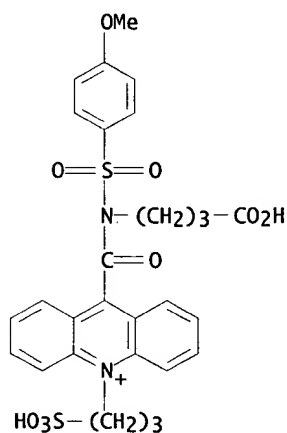
RN 395070-14-1 CAPLUS

CN Acridinium, 9-[[[3-(3-carboxypropyl)][4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)- (9CI) (CA INDEX NAME)



RN 395070-15-2 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)[(4-methoxyphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:843407 CAPLUS

DOCUMENT NUMBER: 136:147381

TITLE: Too much of a good thing? Modulating the signal of acridinium-9-carboxamide salts

AUTHOR(S): Adamczyk, Maciej; Chen, Yon-Yih; Fishpaugh, Jeffrey R.; Mattingly, Phillip G.; Moore, Jeffrey A.; Pan, You; Shreder, Kevin; Yu, Zhiguang

CORPORATE SOURCE: Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA

SOURCE: Bioluminescence & Chemiluminescence, Proceedings of the International Symposium, 11th, Pacific Grove, CA, United States, Sept. 6-10, 2000 (2001), Meeting Date 2000, 211-214. Editor(s): Case, James F. World Scientific Publishing Co. Pte. Ltd.: Singapore, Singapore.

CODEN: 69CAFI

DOCUMENT TYPE: Conference

LANGUAGE: English

AB Four labels were prepd. with widely different chemiluminescent profiles.

Each of these was converted to chemiluminescent tracers for prototypic immunoassays for phenobarbital and phenytoin, two analytes that are found in the micromolar concn. range. N10-(3-sulfopropyl)-N-sulfonylacridinium-9-carboxamide salts were synthesized in a three step sequence consisting of acylating a sulfonamide ester with acridine-9-carboxylic acid chloride, sulfopropylating the acridine N10 position with 1,3-propanesultone and finally removing the ester protecting group with aq. HCl. Each tracer was purified by reversed-phase HPLC to achieve greater than 98% purity. The total light output from each tracer was essentially the same, but the rate of light produced by each tracer differed by as much as 20-fold. The changes in the sulfonamide substituents in the series had no effect on the affinity of the tracers for their antibodies.

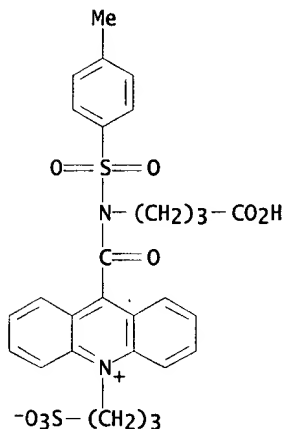
IT 211106-69-3 246874-12-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(too much of a good thing modulating signal of acridinium-9-carboxamide salts)

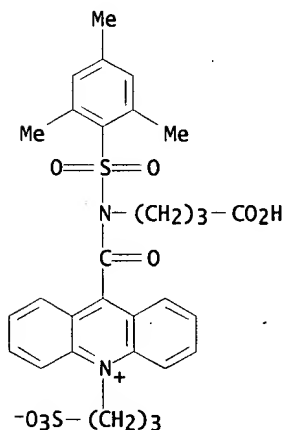
RN 211106-69-3 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)][(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



RN 246874-12-4 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)][(2,4,6-trimethylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)

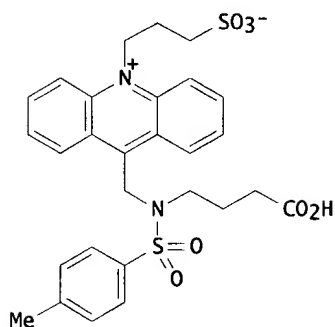


REFERENCE COUNT:

9

THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 2001:843406 CAPLUS
 DOCUMENT NUMBER: 137:140426
 TITLE: Microwave-assisted synthesis of chemiluminescent
 acridinium salts
 AUTHOR(S): Adamczyk, Maciej; Mattingly, Phillip G.; Chen,
 Yon-Yih; Fino, James R.
 CORPORATE SOURCE: Diagnostics Division, Abbott Laboratories, Abbott
 Park, IL, 60064-6016, USA
 SOURCE: Bioluminescence & Chemiluminescence, Proceedings of
 the International Symposium, 11th, Pacific Grove, CA,
 United States, Sept. 6-10, 2000 (2001), Meeting Date
 2000, 207-210. Editor(s): Case, James F. World
 Scientific Publishing Co. Pte. Ltd.: Singapore,
 Singapore.
 CODEN: 69CAFI
 DOCUMENT TYPE: Conference
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 137:140426
 GI



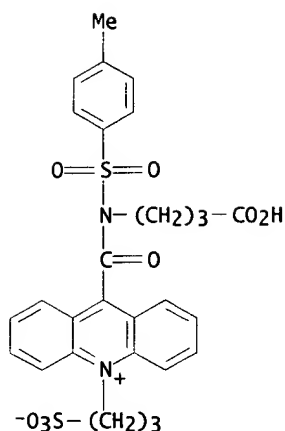
AB The usefulness of microwave irradiation in the synthesis of
 acridinium-9-carboxamide chemiluminescent labels, e.g., I, was evaluated.
 The dielectric heating in a microwave oven (1 min, medium power) of a mixture
 of acridine-9-carboxamide and 1,3-propane sultone gave only traces of the
 desired product after hydrolysis. During optimization of the reaction
 conditions, three factors were found to affect the reaction, i.e., the
 ratio of 1,3-propane sultone to acridine, the duration and intensity of
 the dielectric heating, and presence of an acid scavenger. The high temperature
 achieved in the microwave oven might decompose the propane sultone into
 acidic byproducts that could protonate the acridine-9-carboxamide,
 rendering it unreactive. The acridinium-9-carboxamide products were
 isolated in 70-80% yield after extraction of the excess 1,3-propane sultone
 into ether, acid hydrolysis, and chromatographic purification.

IT 211106-69-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of sulfopropylacridines via microwave assisted addition of
 acridinecarboxamides to propane sultone)

RN 211106-69-3 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-
 10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:361769 CAPLUS

DOCUMENT NUMBER: 135:164391

TITLE: Quantitative determination of noncovalently bound acridinium in protein conjugates by liquid chromatography/electrospray ion trap mass spectrometry

AUTHOR(S): Adamczyk, Maciej; Gebler, John C.; Shreder, Kevin; Wu, Jiang

CORPORATE SOURCE: Department of Chemistry (9NM), Abbott Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA

SOURCE: Rapid Communications in Mass Spectrometry (2001), 15(9), 670-674

CODEN: RCMSEF; ISSN: 0951-4198

PUBLISHER: John Wiley & Sons Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A sensitive and robust liq. chromatog./electrospray ion trap mass spectrometry (LC/MS/MS) method has been developed for the quant. detn. of noncovalently bound acridinium free acid in protein-acridinium conjugates. The lower level of quantitation (LOQ) for acridinium free acid was detd. to be 0.6 ng. The assay was validated with a linear concn. range of 0.6-60 ng. The method requires min. sample handling and is specific, reproducible, and provides a new aspect for protein-acridinium conjugate characterization.

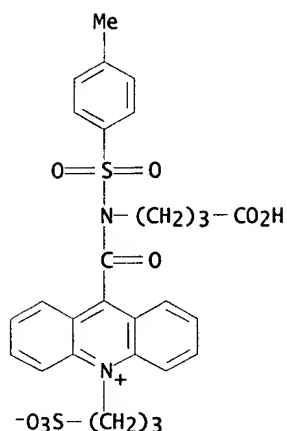
IT 211106-69-3D, reaction conjugates with proteins

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(acridinium in protein conjugates detn. by liq. chromatog./electrospray ion trap mass spectrometry)

RN 211106-69-3 CAPLUS

CN Acridinium, 9-[[[3-carboxypropyl][(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 7 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:276197 CAPLUS

DOCUMENT NUMBER: 135:30811

TITLE: Design of acridinium-9-carboxamides and anti-acridinium antibodies for chemiluminescent signal enhancement

AUTHOR(S): Adamczyk, Maciej; Mattingly, Phillip G.; Moore, Jeffrey A.; Pan, You; Shreder, Kevin; Yu, Zhiguang

CORPORATE SOURCE: Department of Chemistry (9NM) Abbott Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA

SOURCE: Bioconjugate Chemistry (2001), 12(3), 329-331
CODEN: BCCHES; ISSN: 1043-1802

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel system of signal enhancement is presented in which every labeled antibody is capable of generating a signal. Three chemiluminescent acridinium-9-carboxamide haptens (1, 2, and 3) which incorporated differences in charge and location of the linker were designed and synthesized. Anti-acridinium polyclonal antibodies for each hapten were screened using surface plasmon resonance instrumentation to determine specificity for each hapten. Anti-acridinium 2 antibodies were found to be non-cross-reactive to acridinium 1. This property was exploited to design secondary antibody conjugates which would bind to primary antibodies labeled with 2 yet could still be labeled with the structurally similar acridinium 1. Consequently, both layers contributed to the overall chemiluminescent signal. This format is an advance over other signal amplification formats which employ non-signal-generating, labeled antibodies to construct multilayered systems.

IT 344360-40-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(acridinium-9-carboxamides synthesis and anti-acridinium antibodies for chemiluminescent signal enhancement)

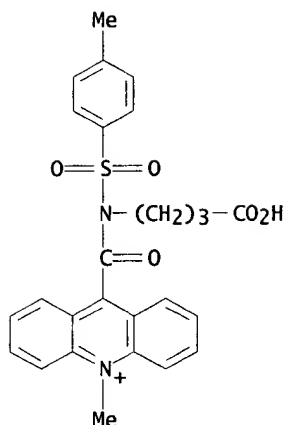
RN 344360-40-3 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-methyl-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 344360-39-0

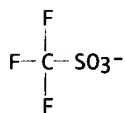
CMF C26 H25 N2 O5 S



CM 2

CRN 37181-39-8

CMF C F3 03 S



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 8 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:101348 CAPLUS

DOCUMENT NUMBER: 134:159459

TITLE: Chemiluminescent substrates of hydrolytic enzymes such as phosphatases

INVENTOR(S): Jiang, Qingping; Natrajan, Anand; Sharpe, David J.; Wong, Wen-jee; Law, Say-jong

PATENT ASSIGNEE(S): Bayer Corporation, USA

SOURCE: PCT Int. Appl., 156 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

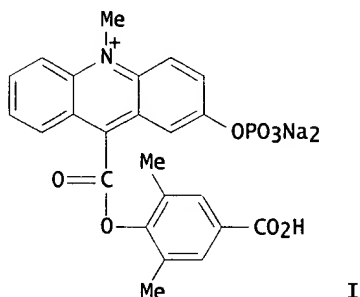
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| WO 2001009372 | A1 | 20010208 | WO 2000-US20429 | 20000727 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| EP 1203091 | A1 | 20020508 | EP 2000-950764 | 20000727 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, | | | | |

*Applicant
cite for priority
document*

IE, SI, LT, LV, FI, RO, MK, CY, AL
 JP 2003528938 T2 20030930 JP 2001-513627 20000727
 PRIORITY APPLN. INFO.: US 1999-146648P P 19990730
 WO 2000-US20429 W 20000727
 OTHER SOURCE(S): MARPAT 134:159459
 GI



AB Chemiluminescent substrates of hydrolytic enzymes are disclosed having the general Formula Lumi-M-P, where Lumi is a chemiluminescent moiety capable of producing light (a) by itself, (b) with MP attached and (c) with M attached, wherein the different properties of Lumi-M-P and Lumi-M allow them to be distinguished. Lumi includes, but is not limited to, acridinium compds. (e.g. acridinium esters, carboxyamides, thioesters, and oxime esters), reduced forms thereof (e.g. acridans), and spiroacridan compds. M is selected from oxygen, nitrogen and sulfur. P is a group that can be readily removed by hydrolytic enzymes to give Lumi-M and P. The hydrolytic enzyme can be phosphatase, glycosidase, peptidase, protease, esterase, sulfatase, and guanidinobenzoatase. Thus, 2-Phos-DMAE (I) is synthesized and shown to be an excellent substrate of hydrolytic alk. phosphatase to form 2-OH-DMAE. Both I and 2-OH-DMAE are chemiluminescent, but emit light at different emission maxima when they are treated with H2O2 in strong alk. soln. I emits a strong, visible blue light at λ_{max} 478 nm while 2-OH-DMAE emits a strong, visible orange light at λ_{max} 602 nm, thus resulting in a bathochromic shift of emission max. by 128 nm. One of the advantages in using chemiluminescent acridinium substrates like I to detect hydrolytic enzymes is that the products generated by the enzyme can be accumulated without undergoing significant decompn. during the enzymic reaction. In addn., under certain conditions the chemiluminescence from I is selectively and significantly suppressed, and thereby the overall signal differentiation of 2-OH-DMAE over I is improved. A heterogeneous immunoassay is also provided demonstrating I utility as a substrate for the chemiluminescent detection of TSH in human serum.

IT 324762-34-7P

RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(chemiluminescent substrates of hydrolytic enzymes such as phosphatases)

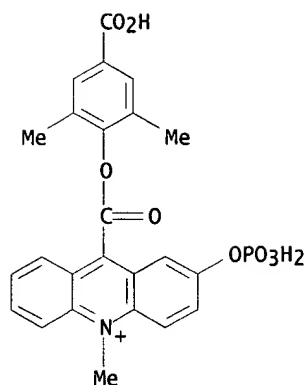
RN 324762-34-7 CAPLUS

CN Acridinium, 9-[(4-carboxy-2,6-dimethylphenoxy)carbonyl]-10-methyl-2-(phosphonooxy)-, salt with trifluoroacetic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 324762-33-6

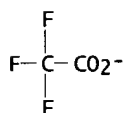
CMF C24 H21 N O8 P



CM 2

CRN 14477-72-6

CMF C2 F3 O2



IT 324762-37-0P 324762-38-1P 324762-42-7P

RL: ARG (Analytical reagent use); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(chemiluminescent substrates of hydrolytic enzymes such as phosphatases)

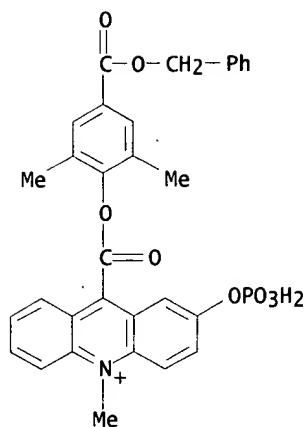
RN 324762-37-0 CAPLUS

CN Acridinium, 9-[[2,6-dimethyl-4-[(phenylmethoxy)carbonyl]phenoxy]carbonyl]-10-methyl-2-(phosphonoxy)-, salt with trifluoroacetic acid (1:1) (9CI)
(CA INDEX NAME)

CM 1

CRN 324762-36-9

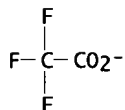
CMF C31 H27 N O8 P



CM 2

CRN 14477-72-6

CMF C2 F3 O2



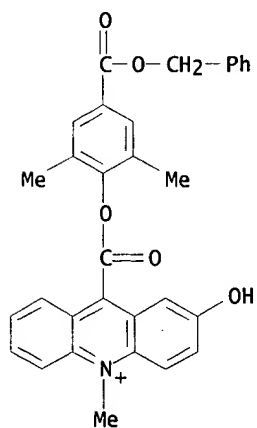
RN 324762-38-1 CAPLUS

CN Acridinium, 9-[[2,6-dimethyl-4-[(phenylmethoxy)carbonyl]phenoxy]carbonyl]-
2-hydroxy-10-methyl-, salt with trifluoroacetic acid (1:1) (9CI) (CA
INDEX NAME)

CM 1

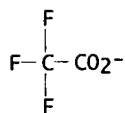
CRN 259169-46-5

CMF C31 H26 N O5



CM 2

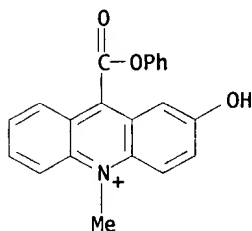
CRN 14477-72-6
CMF C2 F3 O2



RN 324762-42-7 CAPLUS
CN Acridinium, 2-hydroxy-10-methyl-9-(phenoxycarbonyl)-, salt with trifluoroacetic acid (1:1) (9CI) (CA INDEX NAME)

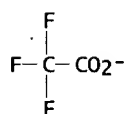
CM 1

CRN 324762-41-6
CMF C21 H16 N O3



CM 2

CRN 14477-72-6
CMF C2 F3 O2

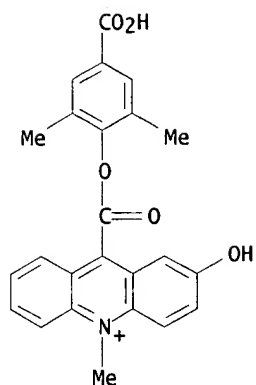


IT 324762-35-8P 324762-40-5P 324762-43-8P
324762-44-9P
RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses) (chemiluminescent substrates of hydrolytic enzymes such as phosphatases)

RN 324762-35-8 CAPLUS
CN Acridinium, 9-[(4-carboxy-2,6-dimethylphenoxy)carbonyl]-2-hydroxy-10-methyl-, salt with trifluoroacetic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

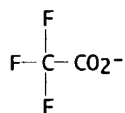
CRN 259169-42-1
CMF C24 H20 N O5



CM 2

CRN 14477-72-6

CMF C2 F3 O2



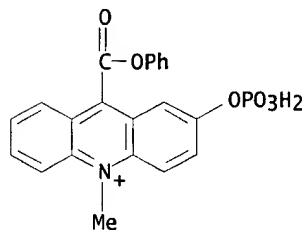
RN 324762-40-5 CAPLUS

CN Acridinium, 10-methyl-9-(phenoxycarbonyl)-2-(phosphonoxy)-, salt with trifluoroacetic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 324762-39-2

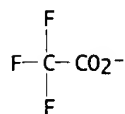
CMF C21 H17 N O6 P



CM 2

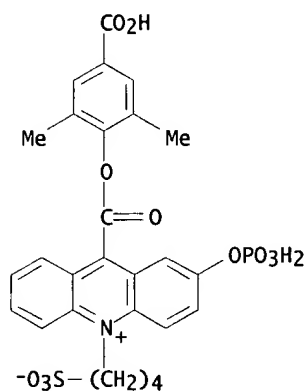
CRN 14477-72-6

CMF C2 F3 O2



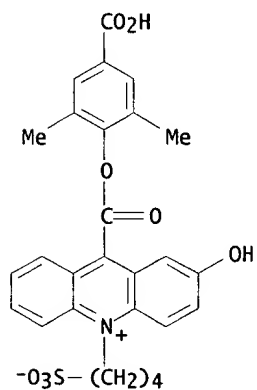
RN 324762-43-8 CAPLUS

CN Acridinium, 9-[(4-carboxy-2,6-dimethylphenoxy)carbonyl]-2-(phosphonoxy)-10-(4-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)



RN 324762-44-9 CAPLUS

CN Acridinium, 9-[(4-carboxy-2,6-dimethylphenoxy)carbonyl]-2-hydroxy-10-(4-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)



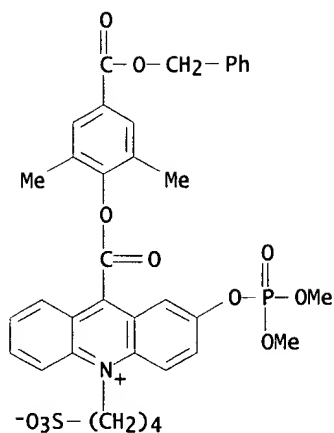
IT 324762-62-1P 324762-64-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(chemiluminescent substrates of hydrolytic enzymes such as phosphatases)

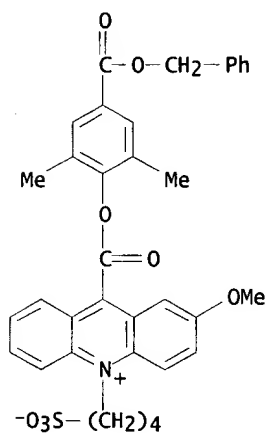
RN 324762-62-1 CAPLUS

CN Acridinium, 2-[(dimethoxyphosphinyloxy]-9-[[2,6-dimethyl-4-[(phenylmethoxy)carbonyl]phenoxy]carbonyl]-10-(4-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)



RN 324762-64-3 CAPLUS

CN Acridinium, 9-[[2,6-dimethyl-4-[(phenylmethoxy)carbonyl]phenoxy]carbonyl]-2-methoxy-10-(4-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 9 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2000:485469 CAPLUS

DOCUMENT NUMBER: 133:263374

TITLE: Linker-Mediated Modulation of the Chemiluminescent Signal from N10-(3-Sulfopropyl)-N-sulfonylacridinium-9-carboxamide Tracers

AUTHOR(S): Adamczyk, Maciej; Chen, Yon-Yih; Fishpaugh, Jeffrey R.; Mattingly, Phillip G.; Pan, You; Shreder, Kevin; Yu, Zhiguang

CORPORATE SOURCE: Diagnostics Division Department of Chemistry, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA

SOURCE: Bioconjugate Chemistry (2000), 11(5), 714-724
CODEN: BCCHES; ISSN: 1043-1802

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Four chemiluminescent N-sulfonylacridinium-9-carboxamide active esters (17-20) were prep'd. from the corresponding acids and coupled to both of the aminated phenobarbital (13) and N-(6-aminohexyl)phenytoin (16) haptens. The level of signal produced by chemiluminescent

N-sulfonylacridinium-9-carboxamide phenobarbital and phenytoin tracers in a solid-phase immunoassay format was found to be modulated by at least 20-fold by the judicious choice of the reactive acridinium-hapten linking group.

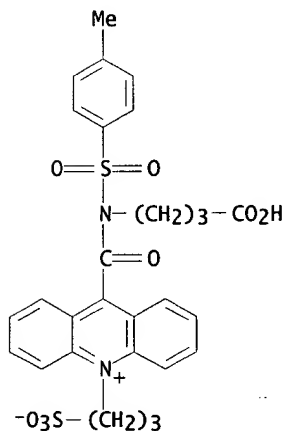
IT 211106-69-3 246874-12-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(in tracer prepn.; linker-mediated modulation of chemiluminescent signal from sulfopropyl sulfonylacridinium carboxamide tracers)

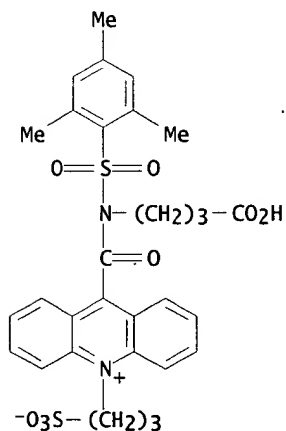
RN 211106-69-3 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



RN 246874-12-4 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)[(2,4,6-trimethylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

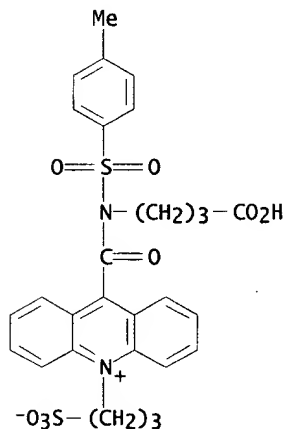
ACCESSION NUMBER: 2000:304129 CAPLUS

DOCUMENT NUMBER: 133:69108

TITLE: Evaluation of chemiluminescent estradiol conjugates by using a surface plasmon resonance detector

AUTHOR(S): Adamczyk, M.; Chen, Y.-Y.; Gebler, J. C.; Johnson, D. D.; Mattingly, P. G.; Moore, J. A.; Reddy, R. E.; Wu, J.; Yu, Z.

CORPORATE SOURCE: Diagnostics Division, Department of Chemistry, Abbott Laboratories, Abbott Park, IL, USA
 SOURCE: Steroids (2000), 65(6), 295-303
 CODEN: STEDAM; ISSN: 0039-128X
 PUBLISHER: Elsevier Science Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A series of chemiluminescent 17.β-estradiol probes were synthesized. Relative equil. dissocn. consts. (KD) for the interaction of an anti-E2 Fab fragment for the probes in soln. were evaluated using a single E2-analog biosensor surface on a BIAcore surface plasmon resonance instrument. The results show the antibody fragment binds all chemiluminescent conjugates tested with high affinity showing only minor preferences for site of substitution (C6 vs. C7), stereochem. (.α. vs. .β.), or linker moiety.
 IT 211106-69-3
 RL: RCT (Reactant); RACT (Reactant or reagent) .
 (in chemiluminescent estradiol conjugate prepn.)
 RN 211106-69-3 CAPLUS
 CN Acridinium, 9-[[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 11 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2000:133665 CAPLUS

DOCUMENT NUMBER: 132:191423

TITLE: Synthesis of near infrared chemiluminescent acridinium compounds and their application for labeling proteins and nucleotides

INVENTOR(S): Natrajan, Anand; Jiang, Qingping; Sharpe, David; Law, Say-Jong

PATENT ASSIGNEE(S): Bayer Corporation, USA

SOURCE: PCT Int. Appl., 89 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| WO 2000009487 | A1 | 20000224 | WO 1999-US18076 | 19990810 |

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG,

Applicant

MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,
TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ,
MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9954739 A1 20000306 AU 1999-54739 19990810

EP 1104405 A1 20010606 EP 1999-941005 19990810

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO

US 6355803 B1 20020312 US 1999-371489 19990810

JP 2002522530 T2 20020723 JP 2000-564941 19990810

US 2002076823 A1 20020620 US 2001-6421 20011206

PRIORITY APPLN. INFO.:

US 1998-96073P P 19980811

US 1999-371489 A3 19990810

WO 1999-US18076 W 19990810

AB Our results identify two sets of necessary and sufficient criteria for observing long-wavelength emission from acridinium compds.: Set A: (a) the creation of an extended conjugation system by the attachment of appropriate functional groups on the acridinium nucleus (electronic requirement); (b) coplanarity of the attached functional group and the acridone moiety during light emission (geometry requirement); (c) said functional group must consist of at least one arom. ring and one electron-donating atom or group with an extra pair of electrons which can readily delocalize into the extended .pi. system to which the heteroatom is directly attached or built into, and establish stable extended resonance with the electron-withdrawing carbonyl moiety of the light emitting acridone. Such electron-donating atom or group that exists in the form of an anion has particularly strong effect to further the bathochromic shift of the emission wavelength. Set B: (a) A direct attachment at one or more of positions C-2, C-4, C-5, or C-7 of the acridinium nucleus, of electron-donating atoms or groups having extra pair(s) of electrons. The electron-donating entities can be the same or different if more than one electron-donating entity is used. Such electron-donating atom or group that exists in the form of an anion has particularly strong effect to further the bathochromic shift of the emission wavelength. For mols. for which the above criteria are met such as LEAE, 3-HS-DMAE, and 2-hydroxy-DMAE long wavelength-emission exceeding 500 nm and reaching into NIR region is expected and obsd. Preferably, the utility of an NIR-AC of comparable quantum yield as the conventional acridinium compds. goes hand-in-hand with the employment of a luminescence detector of good to excellent detection efficiency. To achieve efficient NIR signal detection and facilitate the performing of diagnostic assays, a further objective of the present invention is the advance of a concept and the realization of substituting a state-of-the-art charge-coupled device (CCD) detector for the red-insensitive photomultiplier tube (PMT) in a conventional fully or semi-automatic analyzer such as MLA-II of Chiron Diagnostics, Walpole, MA.

IT 259169-47-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(2-MEM-DMAE-Bz; synthesis of near IR chemiluminescent acridinium compds. and application for labeling proteins and nucleotides)

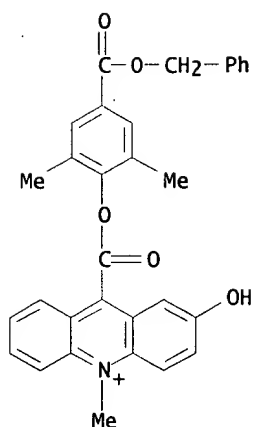
RN 259169-47-6 CAPLUS

CN Acridinium, 9-[[2,6-dimethyl-4-[(phenylmethoxy)carbonyl]phenoxy]carbonyl]-2-hydroxy-10-methyl-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 259169-46-5

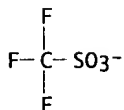
CMF C31 H26 N O5



CM 2

CRN 37181-39-8

CMF C F3 O3 S

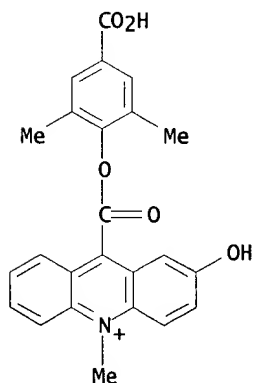


IT 259169-42-1P

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (2-OH-DMAE; synthesis of near IR chemiluminescent acridinium compds. and application for labeling proteins and nucleotides)

RN 259169-42-1 CAPLUS

CN Acridinium, 9-[(4-carboxy-2,6-dimethylphenoxy)carbonyl]-2-hydroxy-10-methyl- (9CI) (CA INDEX NAME)

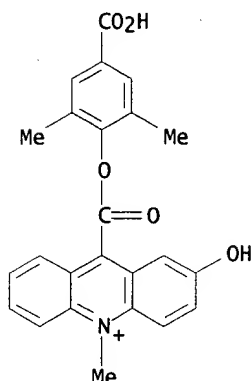


IT 259169-42-1DP, conjugate with Vancomycin A probe

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (synthesis of near IR chemiluminescent acridinium compds. and application for labeling proteins and nucleotides)

RN 259169-42-1 CAPLUS

CN Acridinium, 9-[(4-carboxy-2,6-dimethylphenoxy)carbonyl]-2-hydroxy-10-methyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1999:569948 CAPLUS

DOCUMENT NUMBER: 131:286100

TITLE: Modulation of the chemiluminescent signal from N10-(3-sulfopropyl)-N-sulfonylacridinium-9-carboxamides

AUTHOR(S): Adamczyk, Maciej; Chen, Yon-Yih; Mattingly, Phillip G.; Moore, Jeffrey A.; Shreder, Kevin

CORPORATE SOURCE: Diagnostics Division, Department of Chemistry (09NM), Abbott Laboratories, Abbott Park, IL, 60064-6016, USA

SOURCE: Tetrahedron (1999), 55(36), 10899-10914

CODEN: TETRAB; ISSN: 0040-4020

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

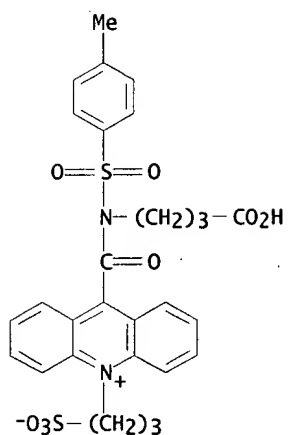
AB Acridinium salts were synthesized from the corresponding sulfonamides and their chemiluminescence profiles were compared. The quantity of light emitted over the time studied did not correlate well with the pKa of sulfonamide leaving group. Rather, steric factors contributed the most to modulating the light output from these compds. The mesitylsulfonyl substituent of acridinium salt reduced the chemiluminescence signal by 20-fold relative to the ref. acridinium salt.

IT 211106-69-3P 246874-10-2P 246874-11-3P 246874-12-4P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (modulation of chemiluminescent signal from sulfopropyl sulfonylacridinium carboxamides)

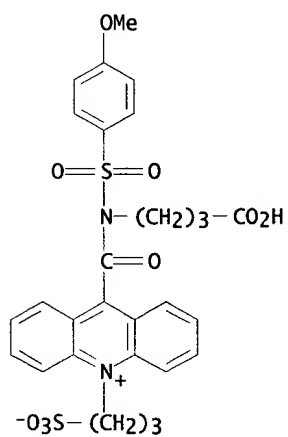
RN 211106-69-3 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



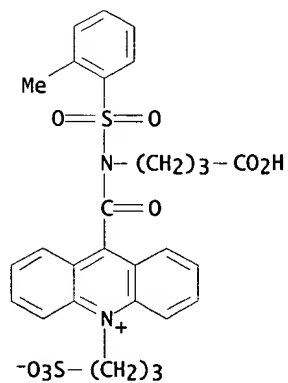
RN 246874-10-2 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)][(4-methoxyphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



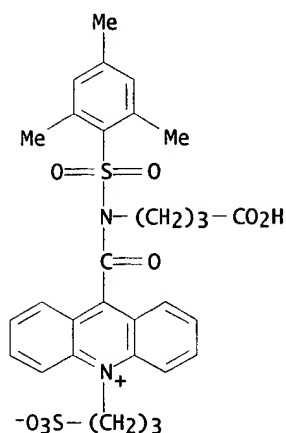
RN 246874-11-3 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)][(2-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



RN 246874-12-4 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)[(2,4,6-trimethylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 13 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1999:496855 CAPLUS

DOCUMENT NUMBER: 132:109353

TITLE: Sulfopropylated chemiluminescent N-sulfonylacridinium-9-carboxamide salts

AUTHOR(S): Adamczyk, M.; Chen, Y. Y.; Mattingly, P. G.; Pan, Y.

CORPORATE SOURCE: Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-3500, USA

SOURCE: Bioluminescence and Chemiluminescence: Perspectives for the 21st Century, Proceedings of the International Symposium on Bioluminescence and Chemiluminescence, 10th, Bologna, Sept. 4-8, 1998 (1999), Meeting Date 1998, 37-40. Editor(s): Roda, Aldo. Wiley: Chichester, UK.

CODEN: 67YCAD

DOCUMENT TYPE: Conference

LANGUAGE: English

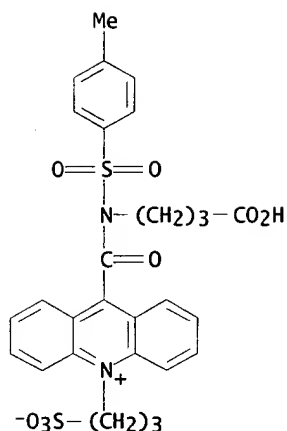
AB Sulfopropylated acridinium compds. suitable for chemiluminescent labeling were prepd. using neopentyl 3-(trifluoromethylsulfonyloxy)propanesulfonate as a sulfopropylation reagent.

IT 211106-69-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (prepn. of sulfopropylated acridinium chemiluminescent labels)

RN 211106-69-3 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1999:491612 CAPLUS

DOCUMENT NUMBER: 131:269135

TITLE: Synthesis of a Chemiluminescent Acridinium Hydroxylamine (AHA) for the Direct Detection of Abasic Sites in DNA

AUTHOR(S): Adamczyk, Maciej; Mattingly, Phillip G.; Moore, Jeffrey A.; Pan, You

CORPORATE SOURCE: Department of Chemistry Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA

SOURCE: Organic Letters (1999), 1(5), 779-781
CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 131:269135

AB The synthesis of a chemiluminescent acridinium hydroxylamine (AHA) for the direct detection of abasic sites in damaged nucleic acids is described. The reagent reacts readily with abasic sites of damaged calf thymus DNA generated in a time-dependent manner under acid/heat depurination conditions. Preliminary results indicate the sensitivity of the direct chemiluminescent detection format is .apprx.0.1 abasic sites detected per 106 nucleotides using as little as 200 ng of DNA.

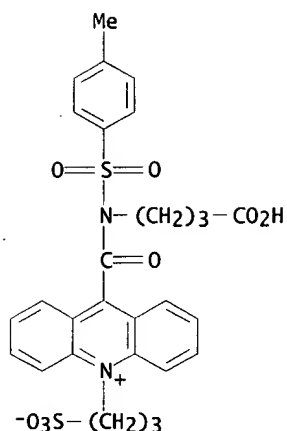
IT 211106-69-3, 10-(3-Sulfopropyl)-N-tosyl-N-(3-carboxypropyl)acridinium-9-carboxamide

RL: RCT (Reactant); RACT (Reactant or reagent)

(synthesis of a chemiluminescent acridinium hydroxylamine (AHA) for the direct detection of abasic sites in DNA)

RN 211106-69-3 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)][(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1999:50614 CAPLUS

DOCUMENT NUMBER: 130:168228

TITLE: Tracermer signal generators: an arborescent approach to the incorporation of multiple chemiluminescent labels

AUTHOR(S): Adamczyk, Maciej; Fishpau, Jeffrey; Mattingly, Phillip G.; Shreder, Kevin

CORPORATE SOURCE: Department of Chemistry (D9NM), Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-3500, USA

SOURCE: Bioorganic & Medicinal Chemistry Letters (1998), 8(24), 3595-3598

CODEN: BMCLE8; ISSN: 0960-894X

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis, conjugation, and chemiluminescent evaluation of zero, first, and second order acridinium-based Tracermer signal generators are described. Members of this family of labels have potential use as tracers in diagnostic assays and are structurally similar to arborol dendrimers. Tracermer-BSA conjugates showed up to a sixfold increase in light emission compared to the normal acridinium label.

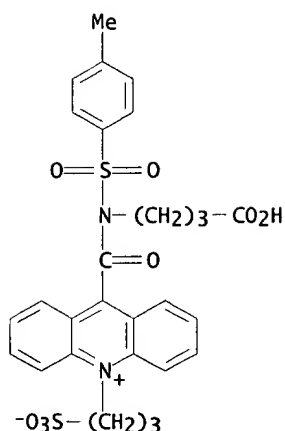
IT 211106-69-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(acridinium-based Tracermer signal generators similar to arborol dendrimers)

RN 211106-69-3 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 16 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1998:699810 CAPLUS

DOCUMENT NUMBER: 130:20048

TITLE: Detection of reaction intermediates by flow injection electrospray ionization mass spectrometry: reaction of chemiluminescent N-sulfonylacridinium-9-carboxamides with hydrogen peroxide

AUTHOR(S): Adamczyk, Maciej; Fishpough, Jeffrey R.; Gebler, John C.; Mattingly, Phillip G.; Shreder, Kevin

CORPORATE SOURCE: Diagnostics Division, Division Organic Chemistry (9-NM), Abbott Laboratories, Abbott Park, IL, 60064, USA

SOURCE: European Mass Spectrometry (1998), 4(2), 121-125

CODEN: EMSPFW; ISSN: 1356-1049

PUBLISHER: IM Publications

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Flow injection electrospray mass spectrometry was used to detect the intermediates and products formed during the reaction of chemiluminescent acridinium salts under the conditions necessary for light emission. A stream of aq. alk. hydrogen peroxide was mixed with an aq. soln. of N-sulfonylacridinium-9-carboxamide salt immediately prior to entering the ESI-MS interface. The resulting neg.-ion mass spectra corresponded to the expected 9-hydroperoxide adduct, the acridone end product normally seen in the chemiluminescent reaction, and unreacted acridinium salt, with no indication of the postulated spirodioxetanone intermediate or competing pseudobase.

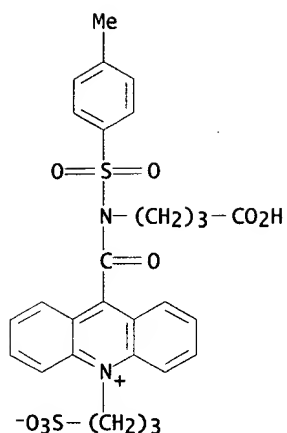
IT 211106-69-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(detection of reaction intermediates by flow injection electrospray ionization mass spectrometry for chemiluminescent reaction of N-sulfonylacridinium-9-carboxamides with hydrogen peroxide)

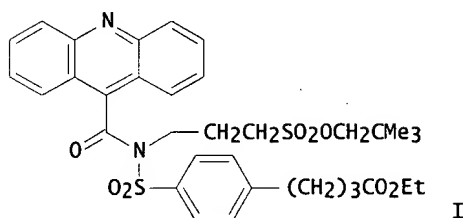
RN 211106-69-3 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)][(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)

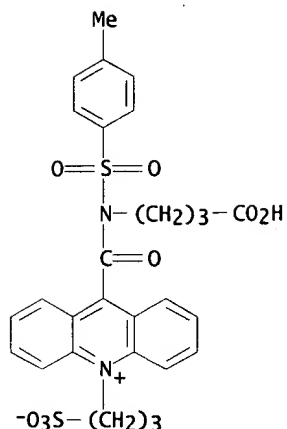


REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 17 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1998:496334 CAPLUS
 DOCUMENT NUMBER: 129:175541
 TITLE: Neopentyl 3-Triflyloxypropanesulfonate. A Reactive Sulfopropylation Reagent for the Preparation of Chemiluminescent Labels
 AUTHOR(S): Adamczyk, Maciej; Chen, Yon-Yih; Mattingly, Phillip G.; Pan, You; Rege, Sushil
 CORPORATE SOURCE: Diagnostics Division Division Organic Chemistry (9-NM) Building AP 20, Abbott Laboratories, Abbott Park, IL, 60064, USA
 SOURCE: Journal of Organic Chemistry (1998), 63(16), 5636-5639 CODEN: JOCEAH; ISSN: 0022-3263
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 129:175541
 GI



AB Whereas 1,3-propane sultone failed to react with acridine deriv. I under forcing conditions, triflate Me3CCH2OSO2(CH2)3OTf was sufficiently reactive at room temp. to quaternize I at the N10 nitrogen. The hydrolyzed product has good aq. soly. and may be used as a chemiluminescent labeling reagent.
 IT 211106-69-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (sulfopropylation of acridine derivs. by neopentyl triflyloxypropanesulfonate)
 RN 211106-69-3 CAPLUS
 CN Acridinium, 9-[[[3-(4-methylphenyl)propanesulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 18 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1998:401947 CAPLUS

DOCUMENT NUMBER: 129:161755

TITLE: Estradiol-mimetic probes. Preparation of 17.alpha.-(6-aminohexynyl)estradiol biotin, fluorescein and acridinium conjugates

AUTHOR(S): Adamczyk, Maciej; Chen, Yon-Yih; Moore, Jeffrey A.; Mattingly, Phillip G.

CORPORATE SOURCE: Diagnostics Division, Abbott Laboratories, Department of Chemistry, Dept. 09NM, Abbott Park, IL, 60064-3500, USA

SOURCE: Bioorganic & Medicinal Chemistry Letters (1998), 8(11), 1281-1284

CODEN: BMCLE8; ISSN: 0960-894X

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

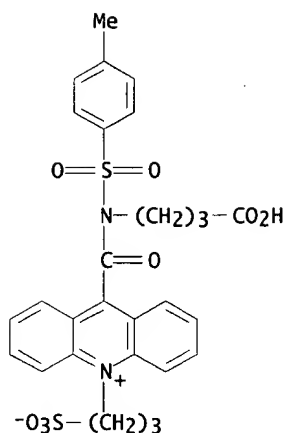
AB 3-O-tert-Butyldimethylsilyl-17.alpha.-(6-mesyloxyhexynyl)estradiol was converted to the azide in 60-70% yield with NaN₃/DMPU, then reduced to the corresponding amine (>95% yield). Acylation with the N-hydroxysuccinimide esters of biotin, 5-carboxyfluorescein and 10-(3-sulfopropyl)-N-tosyl-N-(3-carboxypropyl)acridinium-9-carboxamide gave the title conjugates. The K_Ds of the tracers with an estradiol antibody ranged from 97-197 nM.

IT 211106-69-3, 10-(3-Sulfopropyl)-N-tosyl-N-(3-carboxypropyl)acridinium-9-carboxamide

RL: RCT (Reactant); RACT (Reactant or reagent) (prepn. and binding affinity of 17.alpha.-(6-aminohexynyl)estradiol biotin, fluorescein and acridinium conjugates)

RN 211106-69-3 CAPLUS

CN Acridinium, 9-[[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)

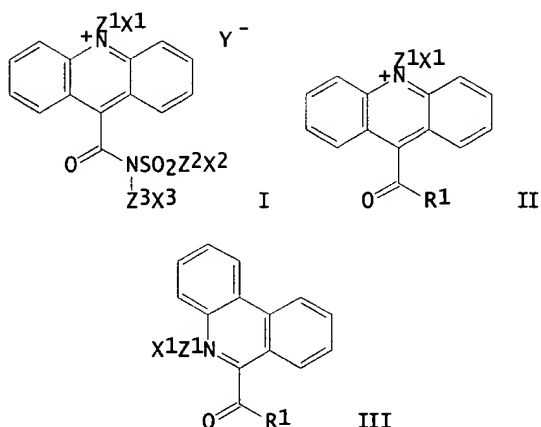


REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 19 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1989:497109 CAPLUS
 DOCUMENT NUMBER: 111:97109
 TITLE: Acridinium salts in chemiluminescence immunoassay
 PATENT ASSIGNEE(S): Abbott Laboratories, USA
 SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| JP 63112564 | A2 | 19880517 | JP 1987-267581 | 19871021 |
| JP 08016103 | B4 | 19960221 | | |
| EP 273115 | A2 | 19880706 | EP 1987-114490 | 19871005 |
| EP 273115 | A3 | 19881026 | | |
| EP 273115 | B1 | 19940907 | | |
| R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE | | | | |
| ES 2063735 | T3 | 19950116 | ES 1987-114490 | 19871005 |
| AU 8779794 | A1 | 19880428 | AU 1987-79794 | 19871015 |
| AU 613586 | B2 | 19910808 | | |
| US 5468646 | A | 19951121 | US 1995-368258 | 19950103 |
| US 5543524 | A | 19960806 | US 1995-442266 | 19950516 |
| US 5545739 | A | 19960813 | US 1995-442275 | 19950516 |
| US 5565570 | A | 19961015 | US 1995-440295 | 19950516 |
| US 5669819 | A | 19970923 | US 1995-442052 | 19950516 |
| US 5783699 | A | 19980721 | US 1995-442050 | 19950516 |
| PRIORITY APPLN. INFO.: | | | US 1986-921979 | 19861022 |
| | | | US 1989-371763 | 19890623 |
| | | | US 1995-368258 | 19950103 |

OTHER SOURCE(S): MARPAT 111:97109
 GI



AB Chemiluminescent compds., e.g. I (Y = not defined; Z¹, Z², Z³, X¹, X², X³ = substituent which does not interfere chemiluminescence; X¹Z¹, X²Z², X³Z³ may be H), useful in an immunoassay, are prepd. from acridinium salts II or phenanthridine III. (Although intermediates and the final products are listed with data, there is no specific example); X³Z³NHSO₂Z²X² in PhMe was treated with Me₃COK in the presence of PhCH₂Bu₃N⁺Br⁻, followed by addn. of 9-chlorocarbonylacridine-HCl to give the corresponding N-sulfonyl-9-acridinecarboxamide, which in CH₂Cl₂ was treated with Na₂CO₃ and Me triflate to afford e.g. 10-Me-N-phenyl-N-(p-toluenesulfonyl)-9-acridiniumcarboxamide trifluoromethanesulfonate.. 10-Methyl-N-tosyl-N-(2-carboxyethyl)-9-acridiniumcarboxamide trifluoromethanesulfonate in anti-hTSH assay showed a sensitivity of 0.016 .mu.IU/mL, vs. 0.05 .mu.IU/mL for Abbot-hTSH-EIA (enzymic immunoassay) kit.

IT 122308-97-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for chemiluminescence immunoassay)

RN 122308-97-8 CAPLUS

CN Acridinium, 9-[[[3-carboxypropyl][(4-methylphenyl)sulfonyl]amino]carbonyl]-10-methyl-, inner salt (9CI) (CA INDEX NAME)

